

5 WHAT IS CLAIMED IS:

1. A computer readable medium having a markup language for execution on a client device in a client/server system, the markup language comprising an instruction indicating a grammar to associate with input entered through the client device.
2. The computer readable medium of claim 1 wherein the instruction indicating a grammar provides a reference to a location of the grammar.
3. The computer readable medium of claim 1 wherein the grammar is for one of speech recognition, handwriting recognition, gesture recognition and visual recognition.
4. The computer readable medium of claim 3 wherein the instruction indicating a grammar includes a reference to a grammar for speech recognition.
5. The computer readable medium of claim 4 wherein the markup language comprises one of HTML, XHTML, cHTML, XML, and WML.
6. The computer readable medium of claim 4 wherein the markup language comprises a scripting language.
7. The computer readable medium of claim 4 wherein the markup language comprises synchronized multimedia markup language.
8. The computer readable medium of claim 1 wherein the markup language includes an instruction for receiving a

5 recognition result pertaining to recognized speech and
associating the result with a data field on the client
device.

9. The computer readable medium of claim 8 wherein the
10 instruction for receiving a recognition result associates the
recognition result to a plurality of data fields.

10. The computer readable medium of claim 1 wherein the
markup language includes an instruction to audibly render an
15 indication when the speech was not recognized.

11. The computer readable medium of claim 1 wherein the
markup language includes an instruction to visually render an
indication when the speech was not recognized.

12. The computer readable medium of claim 1 wherein the
markup language includes an instruction to set a time period
related to speech recognition.

13. The computer readable medium of claim 12 wherein the
time period indicates a maximum period of silence from a
start recognition instruction.

14. The computer readable medium of claim 12 wherein the
30 time period indicates a maximum period before a result must
be returned after detection of speech.

15. The computer readable medium of claim 12 wherein the
time period indicates a maximum period before a result must
35 be returned after a start recognition instruction.

5 16. The computer readable medium of claim 12 wherein the time period indicates a minimum period of silence to indicate an end of speech.

10 17. The computer readable medium of claim 1 wherein the markup language includes an instruction indicating a confidence measure to use for speech recognition.

15 18. The computer readable medium of claim 1 wherein the grammar comprises a DTMF grammar.

19. The computer readable medium of claim 18 wherein the markup language includes an instruction for handling a DTMF event.

20 20. The computer readable medium of claim 1 wherein the markup language includes an instruction for handling a call control event.

25 21. The computer readable medium of claim 1 wherein the markup language includes an instruction indicating for audibly prompting.

30 22. The computer readable medium of claim 21 wherein the markup language includes an instruction for prompting by converting text to speech.

35 23. The computer readable medium of claim 21 wherein the markup language includes an instruction for prompting by playing a selected audio stream.

5 24. The computer readable medium of claim 21 wherein the markup language includes an instruction for retrieving a value for use in prompting.

10 25. The computer readable medium of claim 21 wherein the markup language includes an instruction for related to halting prompting.

15 26. A computer readable medium including instructions readable by a computer which, when implemented, cause the computer to handle information by performing steps comprising:

receiving a markup language page from a web server
having a field for input data;
20 receiving input from a user related to the field; and
sending data indicative of the input and an indication
of a grammar for recognition.

25 27. The computer readable medium of claim 26 wherein the indication provides a reference to locations of the grammars.

30 28. The computer readable medium of claim 26 wherein the indication includes a reference to a language for speech recognition.

29. The computer readable medium of claim 26 wherein the markup language comprises one of HTML, XHTML, CHTML, XML and WML.

35 30. The computer readable medium of claim 26 wherein the markup language comprises a scripting language.

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31. The computer readable medium of claim 26 wherein the markup language comprises a synchronized markup language.

32. The computer readable medium of claim 26 and wherein the input comprises speech, and further including instructions, which when implemented, comprise:

processing the input speech to provide data indicative of the input speech.

33. The computer readable medium of claim 32 wherein processing includes normalizing the data indicative of the input speech.

34. The computer readable medium of claim 32 wherein processing includes generating data indicative of parameters of the input speech.

35. The computer readable medium of claim 26 wherein the input comprises speech and the grammar comprises a speech recognition grammar.

36. The computer readable medium of claim 26 wherein the input comprises DTMF input and the grammar comprises a DTMF grammar.

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37. A method for recognition in a client/server network, the method comprising:

receiving a markup language page having a field for input data on a client device connected to a

5 network from a web server at an address on the
network different than the client device;
receiving input from a user related to the field on the
client device; and
10 sending data indicative of the input and an indication
of a grammar for recognition to a recognition
server at an address on the network different than
the client device.

38. The method of claim 37 and further comprising:

15 normalizing the data indicative of the input prior to
sending the data.

39. The method of claim 37 wherein the indication provides a
reference to location of the grammar.

20 40. The method of claim 37 wherein the markup language
comprises one of HTML, XHTML, cHTML, XML and WML.

41. The method of claim 37 and further comprising:

25 receiving a recognition result pertaining to recognized
speech and associating the result with a data field
on the client device.

42. The method of claim 41 wherein receiving a recognition
result includes associating the recognition result to a
30 plurality of data fields.

43. The method of claim 37 wherein the markup language
comprises a scripting language.

5 44. The method of claim 37 wherein the markup language comprises a synchronized markup language.

10 45. A computer readable medium having a markup language for execution on a client device in a client/server system, the markup language comprising an instruction indicating an object model element having attributes for recognition.

15 46. The computer readable medium of claim 45 wherein the element is for one of speech recognition, handwriting recognition, gesture recognition, DTMF recognition and visual recognition.

20 47. The computer readable medium of claim 45 wherein the element comprises an indication of a grammar for recognition.

25 48. The computer readable medium of claim 45 wherein the element comprises an indication for associating recognition result to a data field.

30 49. The computer readable medium of claim 45 wherein the element comprises an indication for associating recognition result to a plurality of data fields.

50. The computer readable medium of claim 45 wherein the markup language includes instructions for handling an event.

35 51. The computer readable medium of claim 50 wherein the event pertains to a time period.

5 52. The computer readable medium of claim 50 wherein the event pertains to whether recognition was obtained.

53. The computer readable medium of claim 50 wherein the event pertains to when a DTMF key is pressed.

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54. The computer readable medium of claim 53 wherein the event pertains to call control.

15 55. The computer readable medium of claim 45 wherein the element pertains to audibly prompting a user.

56. The computer readable medium of claim 45 wherein the markup language comprises one of HTML, XHTML, cHTML, XML and WML.

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57. The computer readable medium of claim 45 wherein the markup language comprises a scripting language.

25 58. The computer readable medium of claim 45 wherein the markup language comprises a synchronized markup language.

59. A computer readable medium having a markup language for execution on a client device in a client/server system, the markup language comprising an instruction indicating an object model element having attributes for audibly prompting.

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60. The computer readable medium of claim 59 wherein the markup language comprises one of HTML, XHTML, cHTML, XML and WML.

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5 61. The computer readable medium of claim 59 wherein the
markup language comprises a scripting language.

62. The computer readable medium of claim 59 wherein the
markup language comprises a synchronized markup language.

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63. The computer readable medium of claim 59 wherein the
element comprises playing an audio file.

15 64. The computer readable medium of claim 59 wherein the
element comprises converting text-to-speech.

65. The computer readable medium of claim 64 wherein the
element obtains dynamic content for converting text-to-
speech.

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66. The computer readable medium of claim 59 wherein one of
the attributes comprises a period of time when prompting can
be interrupted.

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67. The computer readable medium of claim 59 wherein the
markup language includes instructions for handling an event
related to prompting.

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68. The computer readable medium of claim 67 wherein the
event pertains to whether prompting is being interrupted.